

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

	-----x
	:
LAZARE KAPLAN INTERNATIONAL INC.,	:
	:
Plaintiff,	:
	:
- against -	:
	:
PHOTOSCRIBE TECHNOLOGIES, INC., and	:
GEMOLOGICAL INSTITUTE OF AMERICA,	:
	:
Defendants.	:
	:
	-----x

**OPINION**

Plaintiff Lazare Kaplan International Inc. (“LKI”) sued defendants Photoscribe Technologies, Inc. (“Photoscribe”) and Gemological Institute of America (“GIA”), alleging patent infringement for diamond inscription machines. Following jury and bench trials, this court entered a final judgment against plaintiff, finding that the patent claims were valid but not infringed by defendants under the claim construction determined in this court. Plaintiff appealed, and the United States Court of Appeals for the Federal Circuit remanded a portion of the case for further proceedings. In its opinion, the Federal Circuit broadened the scope of the patent claims at issue.

Plaintiff has filed a motion for summary judgment, arguing that defendants have infringed the patent under the Federal Circuit’s broader claim construction. Defendants also move for summary judgment, arguing that the patent claims are invalid under this broader claim construction. Defendants

have also filed a motion for relief from the prior judgment of validity of the patent claims.

Defendants' motions for relief from the prior judgment of validity and for summary judgment of invalidity are granted. Plaintiff's motion for summary judgment of infringement is denied.

### **Facts**

The following facts are taken from the parties' submissions in support of their motions for summary judgment. For the purposes of these motions, they are assumed to be true.

#### **The '351 Patent**

LKI is the owner of United States Patent No. 6,476,351 ("the '351 patent"), which claims a method of laser microinscription of gemstones, as well as an apparatus for microinscribing gemstones. The patent was issued November 5, 2002. It claims priority to a patent filed on July 30, 1996 and a provisional patent application filed on January 5, 1996. Thus, January 5, 1996 is the earliest possible effective filing date of the '351 patent. This date is relevant to the validity issue discussed in this opinion.

The '351 patent discloses a system that uses a laser to create a series of microscopic spots on the surface of a gemstone, such as a diamond. Together these spots form a "microinscription" that is visible with the aid of a jeweler's loupe and can be used to authenticate and track gemstones.

Only claims 1 and 7 of the patent remain relevant on remand. Claim 1 reads as follows:

1. A method of microinscribing a gemstone with laser energy from a pulse laser energy source, focused by an optical system on the workpiece, comprising the steps of: mounting a gemstone in a mounting system; directing the focused laser energy onto a desired portion of the gemstone; imaging the gemstone from at least one vantage point; receiving marking instructions as at least one input; and *controlling the directing of the focused laser energy based on the marking instructions and the imaging,* to selectively generate a marking on the gemstone based on the instructions.

(Emphasis added.) Claim 7 reads as follows:

7. A laser energy microinscribing system, for gemstones, said system comprising: a laser energy source; a gemstone mounting system, allowing optical access to a mounted workpiece; an optical system for focusing laser energy from the laser energy source, onto the gemstone to create an ablation pattern thereon; means for directing said focused laser energy onto a desired portion of the gemstone, having a control input; an imaging system for viewing the gemstone from at least one vantage point and obtaining image information from the gemstone; an input for receiving marking instructions; and *a processor for controlling said directing means based on said marking instructions and said imaging system,* to selectively generate a marking based on said instructions and a predetermined program.

(Emphasis added.)

During the process of applying for the patent, LKI submitted an amendment to the United States Patent and Trademark Office (“Patent Office”) stating that issued claim 1:

provides the step of: “controlling the directing of the focused laser energy based on the marking instructions and the imaging, to selectively generate a marking on the gemstone based on said instructions,” which therefore requires an analysis of the image.

None of the prior art references disclose using the imaging as a basis for controlling the inscription process.

Allcock Decl., ¶ 5, Ex. D. LKI did not assert that the other limitations of claims 1 and 7 were not in the prior art. The Patent Office subsequently allowed the claims to issue.

The patent specification includes additional language regarding controlling the directing of the laser based on the marking instructions and the imaging. For example, the patent specification states:

The user-entered portion of the content of the inscription is typed on a keyboard or entered by a barcode reader into a computer. . . . The entered inscription and logo are shown on the video screen superimposed on an area corresponding to the girdle of the diamond. Using the mouse and keyboard, the user can change all inscription characteristics in order to fit it correctly in the girdle.

'351 patent, 17:9-18. The patent specification also describes how the projection of a complete inscription on an image of the desired area of the gemstone provides the user with the ability to interactively change all characteristics of the inscription before marking:

The complete inscription . . . is projected on an image from a vertically oriented camera of the girdle providing the user with the ability to interactively change length of inscription, height of characters [sic] remove and align the whole inscription. . . .

The operator can thus observe the inscription before making; observe the marking process itself, and then observe the result and decide if the inscription is complete or not.

Id. at 20:52-62. A portion of this language was quoted in the Federal Circuit's opinion in its interpretation of the "controlling the directing" language of the claims. Lazare Kaplan Int'l, Inc. v. Photoscribe Techs., Inc., et al., 628 F.3d 1359, 1369 (Fed. Cir. 2010). Finally, the specification also describes the ability to store a combined image of the gemstone and the inscription: "The optical feedback system also allows the operator to design an inscription, locate the inscription on the workpiece, verify the marking process and archive or store an image of the workpiece and formed markings." '351 patent, 3:14-17. In their submissions, the parties refer to the projection of an image of the inscription onto an image of the gemstone as a "graphic overlay."

As discussed in more detail below, the language of claims 1 and 7 has now been construed by the Federal Circuit.

#### Procedural History

This case was brought to trial in early 2008. Prior to trial, the court held a hearing pursuant to Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed. Cir. 1995) (en banc), to construe the "controlling the directing" language of claims 1 and 7 of the '351 patent. The court noted that "the patent language describing control based on the imaging made no mention of a role for the operator of the machine in that process." Lazare Kaplan Int'l, Inc. v. GIA Enters., Inc., et al., 2008 U.S. Dist. LEXIS 8228, at \*3 (S.D.N.Y. Feb. 5, 2008). The court therefore defined "controlling the directing" to mean "that the controlling is based on the marking instructions generated by the operator of

the machine, and automatic feedback derived from optical images of the gemstone during the laser burn process.” Id.

Based on this claim construction and the fact that the Photoscribe machines do not have an automatic feedback feature, the court determined that claims 1 and 7 of the ‘351 patent were not literally infringed. On February 5, 2008, the court therefore granted summary judgment of no literal infringement of these claims in favor of defendants. The court, however, permitted LKI to argue at trial that these claims were infringed under the doctrine of equivalents. The court denied the parties’ cross-motions for summary judgment on validity.

The case was brought to trial on February 25, 2008. At trial, the court instructed the jury that the “controlling the directing” language required automatic feedback. After a two-week jury trial, the jury found that claims 1 and 7 of the ‘351 patent were not invalid and that defendants had not infringed those claims under the doctrine of equivalents.

LKI appealed the noninfringement findings to the Federal Circuit. In its appeal, LKI argued that the court erroneously construed the “controlling the directing” language to require automatic feedback derived from optical images of a gemstone during the laser burn process. LKI asserted that the claims do not specify what “control[s] the directing” or when this type of control occurs. LKI contended that the specification makes clear that “controlling the directing . . . based on the marking instructions and the imaging” encompasses control based on both automated and manual feedback that occurs either before or

during the laser burn process. LKI also argued that it was entitled to judgment as a matter of law that the accused devices infringe claim 1 of the ‘351 patent under a proper construction of the claim. Alternatively, LKI requested a new trial on both literal infringement and infringement under the doctrine of equivalents.

Defendants did not appeal the finding on validity.

In a decision filed February 1, 2011, the Federal Circuit affirmed-in-part, vacated-in-part, and remanded-in-part for further proceedings. The Federal Circuit reviewed the court’s claim construction de novo, and construed the “controlling the directing” language to include control based on either automated or manual feedback derived from optical images of a gemstone, before or during the laser burn process. The Federal Circuit quoted the patent specification, noting that:

the specification discloses that where a single pass of the laser is sufficient to inscribe a gemstone “an automated optical feedback system may reliably control operation.” The specification goes on to explain, however, that when multiple passes are necessary “user control may be desirable, and such control is possible through use of the video cameras which are directed at the workpiece, which display a real time image on a computer monitor.”

Lazare Kaplan, 628 F.3d at 1370 (quoting ‘351 patent, 5:57-60 & 5:67-6:4).

The Federal Circuit went on to state:

We therefore vacate the grant of summary judgment of no literal infringement and the jury verdict of no infringement under the doctrine of equivalents, as both are based on [the District Court’s] erroneous construction. Although Lazare argues that it is entitled to judgment as a matter of law based on the

record before us, prudence counsels that we remand this portion of the judgment for further proceedings, as we cannot determine with any certainty that the accused machines infringe the asserted claims under this new construction.

Lazare Kaplan, 628 F.3d at 1370.

Following the remand, this court held a case management conference on May 4, 2011, to discuss what the issues would be for the retrial. Plaintiff argued that only the issue of infringement should be retried, not the issue of validity. Plaintiff noted that the question of validity was sent to the jury and was decided in plaintiff's favor and that defendants did not appeal this ruling. As such, plaintiff argued that defendants are precluded from raising the question of validity on the remand. Defendants argued that both validity and infringement are at issue on remand because the Federal Circuit revised the scope of the patent claims at issue. The court resolved the issue as follows:

[W]e are going to retry it on validity, because the validity decision of the jury in the first trial was on the basis of a claim construction which the Court of Appeals has reversed. So it makes no sense to let that stand, and I am not going to do something that makes no sense. We are going to have a retrial of the issue of validity and the issue of infringement.

Transcript at 10.

#### The Prior Art

Defendants allege that the prior art included laser inscription machines developed by Dr. Paul Christensen of Potomac Photonics in the early 1990s (the "Potomac Photonics Lab Machine") and Herb Gresser of Group II Manufacturing, Ltd. in the early 1980s (the "Gresser Machine"). Defendants

assert that all of the elements in claims 1 and 7 list elements that were present in the prior art, including the Potomac Photonics Lab Machine and the Gresser Machine. Defendants did not provide an expert opinion supporting their position.

Plaintiff denies that the Potomac Photonics Lab Machine and the Gresser Machine anticipate the elements in claims 1 and 7. Plaintiff's expert Dr. Klopp was deposed and concluded that neither the Gresser Machine nor the Potomac Photonics Lab Machine controlled the directing of the laser energy based on the marking instructions and the imaging. Dr. Klopp testified that the only way he could conceive of to meet the Federal Circuit construction, as construed by him, is with the use of a graphic overlay of the image to be inscribed on an image of the gemstone. Klopp Dep. Tr., 9/26/11 at 64:24-65:7. In other words, in plaintiff's expert's view, in order for the controlling of the directing of the laser to be based on both the marking instructions and the imaging, the machine must enable the operator to use a graphic overlay. It is undisputed that neither the Gresser Machine nor the Potomac Photonics Lab Machine used a graphic overlay. Plaintiff also argues that the Gresser Machine did not perform "imaging the gemstone from at least one vantage point."

The Potomac Photonics Lab Machine needs to be further described. Dr. Paul Christensen developed several commercial laser micromachining systems in the early 1990s based on a machine he created at Potomac Photonics (the Potomac Photonics Lab Machine). The timing regarding the Potomac Photonics Lab Machine is relevant. Thus, the following evidence is germane. Dr.

Christensen used the Potomac Photonics Lab Machine to inscribe gemstones for LKI in 1994, and in a research project funded by the National Science Foundation in 1993. Dr. Christensen testified in a deposition that the Potomac Photonics Lab Machine was used to inscribe diamonds for the purpose of encouraging LKI to buy machines and/or services from Potomac Photonics. There is an entry in George Kaplan's notebook for November 24, 1992, stating that LKI had received some samples from Potomac and were going to send him additional diamonds.

To use the Potomac Photonics Lab Machine, an operator could view images of the gemstone using the video camera and viewing optics. The operator input marking instructions to the computer to control what the inscription would look like and the starting point for the inscription. The operator could use a cross-hair to locate the starting point for the inscription. The laser would then inscribe the diamond based on the manually-selected starting point and the marking instructions.

Dr. Christensen published an article, *Fine Diamonds with Laser Machining* ("*Fine Diamonds*") in November 1993. The article described the Potomac Photonics Lab Machine and the process Christensen used. The configuration of the Potomac Photonics Lab Machine was depicted in Figure 2 of *Fine Diamonds*. As described above, defendants also allege that Dr. Christensen inscribed diamonds provided by LKI as part of a research project funded by the National Science Foundation ("NSF") in 1993. The final project report for Dr. Christensen's NSF project ("the *NSF Report*") was submitted to

NSF no later than December 1993. Figure 1 of the *NSF Report* also depicted the configuration of the Potomac Photonics Lab Machine. The figures demonstrate that the Potomac Photonics Lab Machine had a UV laser as the laser energy source, x-y stages where the gemstone was mounted, a video camera and viewing optics serving as an imaging system to image the gemstone, and a computer and stage controller to control the directing of the focused laser energy based on instructions input by the user. The NSF Report states that the material used for the NSF project was a gemstone furnished by LKI.

Plaintiff points out that the figures depicted in *Fine Diamonds* and the *NSF Report* do not disclose a connection between the video camera and the computer. Plaintiff's expert Dr. Klopp concludes that, without such a connection, the systems could not be used to superimpose an inscription on an image of the desired area of the gemstone to allow adjustment of size, position, orientation, etc., as described in the '351 patent. In other words, as noted above, Dr. Klopp concludes that a graphic overlay is required in order to control the directing of laser energy based on the marking instructions and the imaging, and he concludes that the Potomac Photonics Lab Machine did not include that function.

The second relevant prior art is the Gresser Machine. LKI contracted with Herb Gresser of Group II Manufacturing, Ltd. on April 4, 1980, to build a laser inscription machine (the "Gresser Contract"). The resulting machine is referred to in this litigation as the Gresser Machine. Mr. Gresser testified at

trial and in deposition about the operation of the Gresser Machine. It included the following hardware: a unit processor, a scanner, a laser, a keyboard input, a display, and a frame. The Gresser Contract provided specific hardware requirements for the Gresser Machine, including that: (1) the unit processor be a digital microprocessor to translate manual information into automatic operating instructions; (2) the scanner be a device to move the focused laser across the object being inscribed in a predetermined fashion; (3) the keyboard contain alphanumeric keys that translate operator's input to digital commands to the system followed by automatic operation and control of the system; and (4) the machine include two displays, (a) a visual magnified display of the diamond to assure proper orientation and final view of the inscription, and (b) an electro-optic display of the keyboard input. The operator of the Gresser Machine used the viewing microscope image of the gemstone to input the curvature of the girdle into the computer control system, and the system used that information to rotate the gemstone during the inscription.

The parties appear to disagree on whether LKI disclosed the Gresser Machine to the Patent Office when applying for the '351 patent. Defendants claim that LKI never disclosed the machine, while plaintiff states that the Patent Office did examine the Gresser patent. The record implies that the Gresser patent covers the same Gresser Machine to which defendants refer, but this fact is not entirely certain from the materials currently before the court. However, two points related to the Gresser patent are particularly relevant here. First, during the examination of the '351 patent, the patent

office examiner reviewed U.S. Patent No. 4,392,476, which was held by Gresser and others (the “Gresser patent”), and found that it met all of the limitations of what eventually issued as claim 1<sup>1</sup> of the ‘351 patent “except imaging the gemstone from at least one vantage point and contemporaneously storing information relating to [sic] image of the gemstone containing the marking.” Hough Decl., Exh. B. Second, during the Markman hearing held before this court in October, 2007, defendants’ attorney, John Allcock, discussing that language from the patent office examiner, stated that his interpretation was that “Gresser has everything except for imaging the gemstone.” See Transcript of Markman Hearing at 383, No. 06 Civ. 4005 (S.D.N.Y. Oct. 25, 2007), ECF No. 161.

#### The Alleged Infringing Devices

Photoscribe makes laser inscription machines for inscribing gemstones, and GIA uses these machines to inscribe gemstones. Photoscribe has made four models of laser inscription machines for inscribing gemstones: the LMS-550, LMS-650, LMS-2000, and LMS-2500. Aside from some immaterial differences, the Photoscribe machines all have the same basic arrangement and operate in essentially the same manner.

Plaintiff alleges that Photoscribe infringes the ‘351 patent by making the machines, that GIA infringes the patent by using the machines, and that Photoscribe induces GIA’s infringement. Defendants concede that making and

<sup>1</sup> During this stage of the patent application process, what eventually issued as claim 1 in the final ‘351 patent was then being considered as claim 102.

using these machines meet all but one of the limitations of the asserted claims—the “controlling the directing” limitations.

According to testimony from David Benderly of Photoscribe, the process of inscribing a gemstone with the LMS-650 works as follows<sup>2</sup>: The operator first places the gemstone on a diamond holder and moves an objective lens to view the diamond via a CCD camera, on a computer monitor. The operator then enters, via a keyboard or barcode, the information to be inscribed. The operator then decides on the placement and size of the inscription by referencing, and adjusting, if necessary, a graphic overlay of the inscription information on the image of the gemstone on the monitor. By referencing the overlay and the image, the operator decides on the placement and size of the inscription and adjusts the overlay accordingly. “The decision to change the graphical overlay make[s] two changes: One, it change[s] a graphical overlay on the screen[,] . . . and [two, it sends] commands to the motion control board to inscribe in a certain way.” Benderly 7/26/11 Tr. at 103:18-25 (Hough Decl., Ex. J). The operator can also change the placement of the inscription by moving the machine’s stage, which moves the diamond. The operator then presses “fire,” and the system inscribes the gemstone based on the marking instructions and the size and placement of the inscription as shown in the graphic overlay.

---

<sup>2</sup> As noted above, the four models of Photoscribe laser inscription machines operate in essentially the same manner. Aside from some small differences, the process for inscribing a gemstone with the LMS-550, LMS-2000, and LMS-2500 is essentially the same as the process with the LMS-650.

Photoscribe's promotional materials and former website discuss the overlay features of the Photoscribe machines. "One unique feature of the LMS-2000 is its ability to precisely size and position text over the live video. Once text is entered, the user can proportionally increase the size of the text string, or relocate its position relative to the gem." Hough Decl., Ex. V (Photoscribe documents mentioning overlay features of the LMS-2000). "Additionally, our software allows you to see an overlay of the inscription superimposed on the diamond before it is engraved, so that 'what you see is what you get' . . . . Graphics, character height and position can easily be adjusted by 'drag & drop' with just a click of a mouse." Hough Decl., Ex. W (printout of Photoscribe's former website mentioning overlay features of LMS-2500).

### Current Motions

Plaintiff LKI seeks summary judgment that defendants have infringed claims 1 and 7 of the '351 patent under the Federal Circuit's construction of those claims. Defendants Photoscribe and GIA seek summary judgment that claims 1 and 7 of the '351 patent are invalid because they are anticipated.

Defendants also seek relief from this court's prior judgment of validity of claims 1 and 7 of the '351 patent pursuant to Federal Rule of Civil Procedure 60(b)(5) and/or 60(b)(6).

### Discussion

#### Motion for Relief from Prior Judgment of Validity

As noted above, defendants move pursuant to Rule 60(b) for relief from the prior judgment that claims 1 and 7 of the '351 patent were valid. A jury

found claims 1 and 7 of the ‘351 patent to be valid under this court’s definition of the “controlling the directing” language to mean “controlling is based on the marking instructions generated by the operator of the machine, and automatic feedback derived from optical images of the gemstone during the laser burn process.” The validity of the claims was determined under a claim construction that has been reversed by the Federal Circuit, and this court therefore never considered—and defendants never had an opportunity to argue—invalidity under the claim construction that the Federal Circuit adopted. Under the Federal Circuit’s construction, the “controlling the directing” language includes control based on either automated or manual feedback.

Plaintiff argues that defendants’ Rule 60(b) motion should be denied on two grounds: that it is untimely, and that defendants’ decision not to take a direct appeal precludes relief.

Rule 60(b) reads, in relevant part:

On motion and just terms, the court may relieve a party or its legal representative from a final judgment, order, or proceeding for the following reasons:

. . .

(5) the judgment has been satisfied, released, or discharged; it is based on an earlier judgment that has been reversed or vacated; or applying it prospectively is no longer equitable; or

(6) any other reason that justifies relief.

“A motion under Rule 60(b) must be made within a reasonable time . . . .”

FED. R. CIV. P. 60(c)(1). The grant of a Rule 60(b) motion is left to the sound discretion of the court. Quevedo v. Postmaster, U.S. Postal Service, 774 F.

Supp. 837, 839 (S.D.N.Y. 1991). The motion should be granted when “appropriate to accomplish justice.” Klapprott v. United States, 335 U.S. 601, 614-15 (1949).

In this case, defendants’ motion was filed approximately 30 months after entry of the judgment from which they seek relief, and approximately seven months after the Federal Circuit’s decision altering the underlying claim construction. Prior to filing this motion, defendants argued the issue of validity at the case management conference on May 4, 2011. Because the motion was necessary only because of the Federal Circuit’s revised claim construction, and because defendants’ timely raised the issue during the case management conference, the motion was timely.

On remand, a party may not ordinarily reargue issues on which it lost but did not appeal. Radio Steel & Mfg. Co. v. MTD Products, Inc., 731 F.2d 840, 844 (Fed. Cir. 1984). Unless remanded by the appellate court, “all issues within the scope of the appealed judgment are deemed incorporated within the mandate and thus are precluded from further adjudication.” Engel Industries, Inc. v. Lockformer Co., 166 F.3d 1379, 1383 (Fed. Cir. 1999).

In patent cases, where the issues of validity and infringement are distinct, a party who lost on the validity issue must appeal that loss in order to preserve the validity issue on remand. Radio Steel, 731 F.2d at 843 (“The judgment in favor of Radio on validity was distinct from the judgment against it on infringement. It would seem that the only way [defendant] could challenge the judgment of validity was by noting an appeal from that portion of the

judgment."); Odetics, Inc. v. Storage Technology Corp., 185 F.3d 1259, 1275 (Fed. Cir. 1999) (Defendant's "failure to appeal the judgment of no invalidity precluded the continued litigation of that issue. The entry of a *distinct* judgment of no invalidity after the first jury trial unquestionably put the patentability of the '151 patent in play when the overall judgment of liability was appealed." (emphasis added)).

In this case, the issues of validity and infringement cannot be said to be distinct; they are closely interrelated. Defendants' essential argument is that the patent claims were either invalid or not infringed, but not both, because defendants' machines are remarkably similar to the prior art. Therefore, defendants argue that their machines either do not infringe the patent (because the prior art was sufficiently different from the patent claims such that it did not anticipate the claims; and defendants' machines are, similarly, sufficiently different from the patent claims such that they do not infringe) or the patent claims are invalid (because the prior art anticipated the claims).

Because the validity and infringement issues cannot be said to be distinct, it was not necessary for defendants to appeal the validity issue in order for the court to hear the issue on remand. Because the Federal Circuit's decision fundamentally changed the claim construction, the issue of validity must be retried under the revised construction. Furthermore, the court already decided at the May 4, 2011 case management conference that the issue of validity would be retried.

The court grants defendants' motion for relief from the prior judgment that claims 1 and 7 of the '351 patent were valid.

Motions for Summary Judgment

As noted above, plaintiff and defendants each move for summary judgment. Plaintiff seeks summary judgment that defendants infringed claims 1 and 7 of the '351 patent, while defendants seek summary judgment that the claims are invalid.

Summary judgment may be granted if there is no genuine issue as to any material fact, such that the movant is entitled to judgment as a matter of law. FED. R. CIV. P. 56(c)(2). A fact is material only if it "might affect the outcome of the suit under the governing law." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). A dispute is genuine if "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." Id. In making the summary judgment determination, the court must draw all justifiable inferences in favor of the non-movant. Id. at 255.

1. Defendants' Motion for Summary Judgment of Invalidity

As noted above, defendants Photoscribe and GIA seek summary judgment that claims 1 and 7 of the '351 patent are invalid because they are anticipated. The court notes that the patent claims at issue may also be invalid because they are obvious. The Court of Appeals has ruled that the patent should be construed to permit manual direction of the inscribing. Thus, with regard to the phrase in claim 1—"controlling the directing of the focused laser energy based on the marking instructions and the imaging"—the

controlling may be manual as well as by some mechanism. The appellate ruling has the same effect with regard to comparable language in claim 7.

The problem is that the relaxed and broadened interpretation really means that the “controlling” is not an invention. The idea of manually controlling some device to print or inscribe is something which was surely widely known and used by the 1990s and indeed had been for decades and perhaps generations before.

Obviously recognizing this, plaintiff needed to come up with a new theory. This new theory, articulated by plaintiff’s expert, Dr. Klopp, is that the controlling involves a “graphic overlay.” This means that the proposed inscription will be represented on some kind of a screen or in some other manner so that it can be viewed as it would appear on the diamond. In a later section of the court’s opinion there will be an analysis of whether the graphic overlay is or is not an element of claim 1 or claim 7. However, before reaching that subject, the court is obliged to say that the graphic overlay, even if it is an element of the patent, does not really turn the controlling process, as interpreted by the Court of Appeals, into an invention. A marking process which involves a graphic overlay is just as obvious and common as doing so manually without such graphic overlay. Every time the user of a computer types something onto the computer, there is a graphic overlay. The typist can see exactly how the typed material will look on the page where it is to be placed. The typist can make changes in this “graphic overlay.” When the material is typed in satisfactory fashion, the typist will signal for it to be

printed on paper. This process was surely old and obvious at the time the patent in question was applied for and issued.

Thus, the court is of the view that manual instructions with or without a so-called “graphic overlay” do not involve inventiveness but involve obvious processes.

The court will now consider the detailed questions about the elements of claims 1 and 7 of the ‘351 patent and the issues of anticipation by prior art.

A patent is invalid if it was anticipated, i.e., if “the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.” 35 U.S.C. § 102(b).

Anticipation requires that the claimed invention and the prior art’s disclosure be identical, as viewed by a person skilled in the art. Scripps Clinic & Research Foundation v. Genentech, Inc., 927 F.2d 1565 (Fed. Cir. 1991). It is not sufficient that all elements of a claimed invention be found in a prior art disclosure; anticipation requires the presence in a single prior art disclosure of all these elements arranged or combined in the same way as in the claim. Net MoneyIn, Inc. v. VeriSign, Inc., 545 F.3d 1359, 1370-71 (Fed. Cir. 2008). The question is “whether one skilled in the art would reasonably understand or infer from the [prior art reference’s] teaching that every claim element was disclosed in that single reference.” Dayco Prods., Inc. v. Total Containment, Inc., 329 F.3d 1358, 1368-69 (Fed. Cir. 2003) (internal quotation marks omitted).

“The burden of proving invalidity on summary judgment is high.”

Schumer v. Laboratory Computer Systems, Inc., 308 F.3d 1304 (Fed. Cir. 2002). Defendants must prove invalidity under a heightened standard of clear and convincing evidence. Microsoft Corp. v. i4i Ltd. Partnership, 131 S.Ct. 2238 (2011); Clock Spring, L.P. v. Wrapmaster, Inc., 560 F.3d 1317, 1325 (Fed. Cir. 2009).

When interpreting claim language, claims “must be read in view of the specification of which they are a part. The specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” Lazare Kaplan, 628 F.3d at 1370 (internal quotation marks omitted, quoting Markman, 52 F.3d at 979; Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc)).

However, the Federal Circuit has “cautioned against limiting the claimed invention to preferred embodiments or specific examples in the specification.” Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n, 805 F.2d 1558, 1563 (Fed. Cir. 1986).

The purposes of the specification are to teach and enable those of skill in the art to make and use the invention and to provide a best mode for doing so. One of the best ways to [do that] is to provide an example of how to practice the invention in a particular case. Much of the time, upon reading the specification in that context, it will become clear whether the patentee is setting out specific examples of the invention to accomplish those goals, or whether the patentee instead intends for the claims and the embodiments in the specification to be strictly coextensive.

Phillips, 415 F.3d at 1323 (internal citations omitted). The Federal Circuit has also “expressly rejected the contention that if a patent describes only a single

embodiment, the claims of the patent must be construed as being limited to that embodiment.” Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed. Cir. 2004). Claims will not be read to be restricted to the embodiment described in the specification “unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” Id. (internal quotations omitted). The Federal Circuit has read specification language to limit claims in cases where “the inventors repeatedly distinguished their invention from the prior art by characterizing their invention narrowly.” Id. at 907 (internal quotations omitted).

In this case, the essential question is one of claim construction, and, with respect to the patent’s validity, plaintiff and defendants disagree on one key point. Plaintiff and plaintiff’s expert argue that the claims require the use of a graphic overlay in order to control the directing of the laser energy based on the marking instructions and the imaging. Defendants argue that no such limitation is contained the claim language, and that the specification language regarding a graphic overlay is merely an example of how the process may operate, not a limitation that can be read into the claims.

As an initial matter, the court must first dispose of plaintiff’s argument that defendants’ failure to provide expert analysis dooms their motion for summary judgment of invalidity. As stated above, the dispositive question in an anticipation analysis is whether one skilled in the art would reasonably understand or infer that the prior art contained every element of the claimed invention. Dayco Prods, 329 F.3d at 1368-69. Plaintiff cites Invitrogen Corp.

v. Clontech Labs., Inc., 429 F.3d 1052, 1068 (Fed. Cir. 2005), which states: “Unsubstantiated attorney argument regarding the meaning of technical evidence is no substitute for competent, substantiated expert testimony. It does not, and cannot, support [a party]’s burden on summary judgment.” This case does not really apply to the issues now before the court. The present motions for summary judgment come in the aftermath of a trial and an appeal. Counsel for the defense has more than ample basis for the arguments made in support of defendants’ motion for summary judgment.

It is undisputed that the language of claims 1 and 7 says nothing about a graphic overlay. Instead, as noted above, the claims discuss (1) imaging a gemstone and (2) controlling the directing of the laser energy based on marking instructions and the imaging. The patent specification, on the other hand, does include language relating to a graphic overlay in at least three places. It states that the “entered inscription and logo are shown on the video screen superimposed on an area corresponding to the girdle of the diamond.” ‘351 patent, 17:9-18. It later states that the “complete inscription . . . is projected on an image from a vertically oriented camera of the girdle providing the user with the ability to interactively change” elements of the inscription. *Id.* at 20:52-56. It also discusses the ability to store a combined image of a gemstone and a superimposed inscription. *Id.* at 3:14-17.

The question is whether the graphic overlay language in the specification defines the claim language and therefore limits the claims to require a graphic

overlay, or whether it merely provides an example of how the patent could operate.

The language of claims 1 and 7 is not ambiguous. Both claims discuss imaging a gemstone. They do not discuss imaging a gemstone and an inscription. They do not discuss imaging an inscription at all. Therefore, the claim language that discusses controlling the directing of the laser energy based on the marking instructions and the imaging refers to the imaging of a gemstone. Had the inventors intended to limit the patent's scope to require a graphic overlay, they could easily have added language into the claim itself about an inscription image or a graphic overlay. Although the specification language discusses the role of a graphic overlay, it does not expressly exclude or restrict the claims to that specific embodiment. See Liebel-Flarsheim, 358 F.3d at 906. The claims, by their clear language, are not limited to a graphic overlay, and the examples provided in the patent specification are insufficient to limit the claims to that specific embodiment of the invention.

With this claim construction in mind, we must now consider whether the patent remains valid in light of the prior art, i.e., the Gresser Machine and the Potomac Photonics Lab Machine.

As noted above, the Patent Office found that the Gresser patent did not image the gemstone from at least one vantage point, and defendants admitted that fact during the Markman hearing. Although it is somewhat unclear whether the Gresser patent covers the Gresser Machine, neither party has stated that there is any difference between the two. Drawing all inferences in

the plaintiff's favor, as the court must on this motion for summary judgment, the Gresser patent and the Gresser Machine are one and the same. Therefore, the Gresser Machine does not anticipate the '351 patent. Without the imaging capability, the Gresser Machine cannot be said to disclose every element of claims 1 and 7, and therefore it does not invalidate the claims. Therefore, only the Potomac Photonics Lab Machine remains relevant.

Plaintiff makes three main arguments for why the Potomac Photonics Lab Machine does not anticipate the '351 patent. First, as discussed above, plaintiff argues that the machine did not control the directing of the laser energy based on the marking instructions and the imaging. This argument relies on plaintiff's interpretation of claims 1 and 7 as requiring a graphic overlay. Under the court's construction of the claims, this argument fails. The Potomac Photonics Lab Machine allowed an operator to place a crosshair on an image of the diamond to identify the starting point for the inscription. Because the placement of this crosshair controlled where the inscription would begin, and because it relied on the image of the diamond, it meets the requirement of controlling the directing of the laser energy based on the imaging. The machine also allowed an operator to enter marking instructions to define the inscription itself and therefore controlled the directing of the laser energy based on the marking instructions. The Potomac Photonics Lab Machine meets all of the elements of claims 1 and 7, including the "controlling the directing" element.

Second, plaintiff denies the existence of the Potomac Photonics Lab Machine and argues that defendants have failed to corroborate the machine's existence with anything other than Dr. Christensen's testimony. As noted above, Dr. Christensen has testified extensively regarding the Potomac Photonics Lab Machine and its functioning. The machine was used to inscribe diamonds for plaintiff. The NSF Report and *Fine Diamonds* both describe and depict the machine. The combination of Dr. Christensen's testimony, *Fine Diamonds*, and the NSF Report sufficiently corroborate the machine's existence and its functioning.

Third, plaintiff argues that the machine was not in public use for more than a year before the earliest effective filing date of the '351 patent in 1996. Dr. Christensen's testimony, the NSF Report, and the entry in George Kaplan's notebook, as described above, all indicate that the Potomac Photonics Lab Machine was being used to inscribe diamonds for LKI at least as early as 1992 and through 1994. This was more than a year before the filing of the '351 patent. Plaintiff disputes the relevance of Mr. Kaplan's notebook entry, stating that it does not refer specifically to the machine or how the diamonds LKI received from Potomac were inscribed. But it is not necessary that each piece of evidence on its own be clear and convincing evidence of the machine's use. Rather, reviewing all the information together, the court must find clear and convincing evidence that the machine was in public use, and Mr. Kaplan's notebook entry further corroborates Dr. Christensen's testimony and the NSF Report, which both indicate what the machine was, how it operated, and the

fact that the machine was used to inscribe diamonds for LKI. The court finds that there is clear and convincing evidence that the Potomac Photonics Lab Machine was in public use more than a year before the first effective filing date of the '351 patent.

The Potomac Photonics Lab Machine had all the elements of claims 1 and 7 of the '351 patent. The machine was in public use for more than a year before the filing of the patent. Therefore, the Potomac Photonics Lab Machine anticipates claims 1 and 7 of the patent, and those claims are invalid. The court grants defendants' motion for summary judgment of invalidity.

## 2. Plaintiff's Motion for Summary Judgment of Infringement

Because this court has found that claims 1 and 7 of the '351 patent are invalid, plaintiff's motion for summary judgment of infringement of those claims is denied as moot.

## CONCLUSION

The court grants defendants' motion for relief from the prior judgment that claims 1 and 7 of the '351 patent were valid.

The court grants defendants' motion for summary judgment of invalidity of claims 1 and 7 of the '351 patent. The court denies as moot plaintiff's motion for summary judgment of infringement.

SO ORDERED.

Dated: New York, New York  
February 15, 2012



Thomas P. Griesa  
U.S. District Judge

